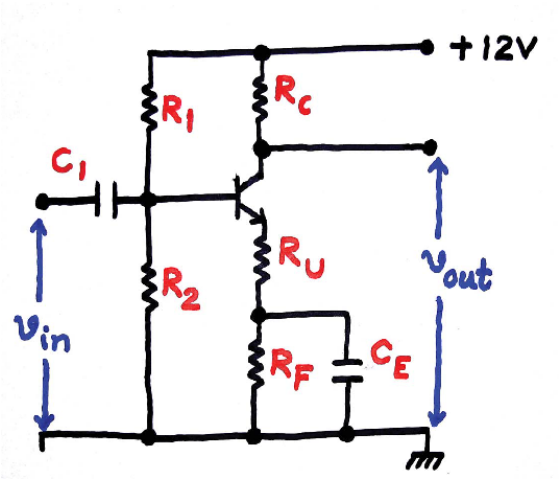
Analog Circuits Lab. (Thursday)

Practical Test [Simulation based]

Please write down Your **Name** and **Roll No.** on your answerscript

Assign the following from your Roll No.(write down in your answerscript):

Let the last two digits of your Roll No. = N.
(For example, if your Roll No. is 19EC10032, then N = 32).



For the amplifier circuit shown here (choose BC548B)

Find out the component values such that:

The collector current is 5 mA and the voltage gain is 10 + 10*(N % 8),
where % indicates *mod* operation. Use high value of capacitors as you think to be suitable.

The output voltage should be at least 5 Volt (peak-to-peak) undistorted sinusoid.

The magnitude of the input needs to be suitably adjusted to avoid distortion at the output.

Simulate the circuit and note down the following observations from the simulation:

(i) DC condition (I_C, V_{CE} etc.) for a Power Supply of 12V.

(ii) Input signal magnitude at 1 kHz for obtaining the required output of 5 V peak-to-peak.

Upload the schematic along with the scanned answerscript.